

What is claimed is:

1. An airstream conditioning apparatus for a data storage device for
attenuating the aerodynamic excitation of air currents on device components, the data
storage device having an enclosure supporting a rotating data storage disc and an
actuator operatively interfacing in a data transfer relationship, the apparatus
comprising an airstream stripper supportable downstream of the actuator with respect
to the direction of the air currents produced by the rotating disc.

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2. The apparatus of claim 1 wherein the airstream stripper comprises a vane
extending substantially radially from an outer radial portion to an inner radial portion
of the data disc.

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3. The apparatus of claim 1 wherein the data storage device supports a
plurality of the data storage discs stacked with spacers between adjacent data storage
disks and commonly rotated as a disc stack, wherein the airstream stripper comprises
a plurality of vanes extending substantially radially from an outer radial portion to an
inner radial portion of the data storage discs of the disc stack and between adjacent
data storage discs.

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4. The apparatus of claim 2 wherein the vane is disposed substantially
transverse to a distal end of the actuator.

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5. The apparatus of claim 1 further comprising a frame supportable by the
enclosure that, in turn, supports the airstream stripper.

6. The apparatus of claim 5 wherein the frame further comprises a shroud
defining a perimeter surface substantially transverse to the data storage disc outer
edge and intersecting the airstream stripper.

7. The apparatus of claim 6 wherein the shroud comprises a fin defining a planar surface extending from the perimeter surface and substantially coextensive with the data storage disc.

5 8. The apparatus of claim 7 wherein the data storage disc comprises opposing planar surfaces, each supporting a data storage surface, and wherein the fin comprises opposing planar surfaces substantially coextensive with the respective data storage surface.

10 9. The apparatus of claim 7 wherein the fin comprises an edge substantially transverse to the planar surface and closely matingly parallel with the data disc outer edge.

15 10. The apparatus of claim 5 wherein the frame supports the airstream stripper in movement between an operative position and a retracted position.

11. The apparatus of claim 10 wherein the frame comprises a retaining member retaining the airstream stripper in the operative position.

20 12. The apparatus of claim 5 wherein the frame comprises a bias member compressingly engageable with the enclosure providing an attachment force on the frame within the enclosure.

25 13. The apparatus of claim 6 wherein the perimeter surface is separated from the data storage disc edge a first distance at a first end of the perimeter surface adjacent the airstream stripper, and wherein the perimeter surface is separated from the data disc edge a second distance at a second end of the perimeter surface, the second distance being greater than the first distance.

14. The apparatus of claim 1 wherein the data storage device comprises a disc drive assembly.

15. A disc drive, comprising:

an enclosure comprising a base and a cover;

a disc stack rotated by a motor supported upon the base;

an actuator supported by the base and having a distal end moving a data transfer element in a data transfer relationship with a data storage surface of the disc stack; and

an airstream conditioning apparatus supported by the enclosure comprising an airstream stripper downstream of the actuator with respect to the direction of air currents generated by the rotating disc stack.

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16. The disc drive of claim 15 wherein the airstream stripper comprises a vane extending substantially radially from an outer radial portion to an inner radial portion of the disc stack and adjacent the data storage surface.

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17. The disc drive of claim 16 wherein the vane is disposed substantially transverse to the actuator distal end.

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18. The disc drive of claim 15 wherein the airstream conditioning apparatus comprises a shroud defining a perimeter surface substantially transverse to the disc stack outer edge and intersecting the airstream stripper.

19. The disc drive of claim 18 wherein the shroud comprises a fin extending from the perimeter surface substantially parallel with the disc stack.

20. A disc drive, comprising:

a base supporting a spinning data storage disc operatively interfacing with an

actuator in a data reading and writing relationship; and

means for limiting the aerodynamic excitation resulting from air currents

generated by the spinning disc.

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21. The disc drive of claim 20 wherein the means for limiting aerodynamic excitation comprises an airstream stripper vane extending substantially radially from an outer radial portion to an inner radial portion of the disc downstream of the actuator and disc interface with respect to the direction of the air currents.

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22. The disc drive of claim 21 wherein the vane is disposed substantially transverse to a distal end of the actuator.

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23. The disc drive of claim 22 wherein the means for limiting aerodynamic excitation comprises a shroud defining a perimeter surface substantially transverse to the disc outer edge and intersecting the airstream stripper vane.

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24. The disc drive of claim 23 wherein the shroud comprises a fin extending from the perimeter surface substantially parallel with the disc.